

REMARKS

I. Introduction

With the addition of new claims 27 and 28, claims 14 to 28 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 14, 16 to 20, and 22 Under 35 U.S.C. § 103(a)

Claims 14, 16 to 20, and 22 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of “Highly Selective Etching of Si₃N₄ to SiO₂ Employing Fluorine and Chlorine Atoms Generated by Microwave Discharge” (“Suto et al.”) and U.S. Patent Application Publication No. 2001/0007275 (“Yanagisawa et al.”). It is respectfully submitted that the combination of Suto et al. and Yanagisawa et al. does not render unpatentable these claims for at least the following reasons.

Claim 14 relates to a device for generating chlorine trifluoride and recites a plasma reactor, plasma generating means, a first gas, a second gas selected to react with the first gas to form chlorine trifluoride when under the influence of a high-density plasma, gas supply means via which the first gas and the second gas can be supplied to the plasma reactor, these gases reacting with one another under the influence of the high-density plasma in the plasma reactor, forming chlorine trifluoride, and a gas outlet via which the formed chlorine trifluoride can be removed from the plasma reactor. Thus, the device recited in claim 14 is arranged to form chlorine trifluoride in the plasma reactor.

Claim 20 relates to a method for generating chlorine trifluoride. Claim 20 recites the steps of generating a high-density plasma in a plasma reactor, and supplying to the plasma reactor a first gas and a second gas, which react with one another under the influence of the high-density plasma in the plasma reactor, forming chlorine trifluoride.

Suto et al. discloses an experimental apparatus arranged to generate F and Cl atoms and interhalogenous molecules, which are then transported into a reaction chamber. See “Experimental” at page 2032. The Office Action asserts at page 3 that “Suto et al. further teach that interhalogen molecules (FCl) are also generated in the quartz tube” and that “[t]he apparatus is considered capable of generating chlorine trifluoride, since in such a reaction, few molecules of various reactive species including ClF₃ would also be inherently produced besides FCl.”

Applicants respectfully traverse this and all other assertions of inherency contained in the Office Action, as the Office Action does not provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; and see Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int’f. 1990)). As regards the assertion that ClF3 would be inherently produced in the device and method of Suto et al., the Final Office Action provides only a conclusory assertion that appears to be based on nothing more than speculation and conjecture, which are insufficient to support a 35 U.S.C. § 103(a) rejection. Applicants respectfully request specific evidence in support of this contention under 37 C.F.R. § 1.104(d)(2) or otherwise. In particular, it is respectfully requested that the Examiner provide an affidavit and/or that the Examiner provide published information concerning this assertion.

There does not appear to be any disclosure or suggestion whatsoever in Suto et al. that chlorine trifluoride is formed in a plasma reactor or otherwise. Yanagisawa et al. does not cure this deficiency.

In view of the foregoing, it is respectfully submitted that the combination of Suto et al. and Yanagisawa et al. does not disclose or suggest all of the features of either of claims 14 and 20. As such, it is respectfully submitted that the combination of Suto et al. and Yanagisawa et al. does not render unpatentable either of claims 14 and 20 or any claim that depends from either of claims 14 and 20.

Further regarding claim 19, the Office Action states at page 5 that “claim limitation pertaining to generation of gaseous chlorine trifluoride is an intended use limitation, and since the prior art apparatus meets all of the structural limitations of the claim, the same is considered capable of meeting the intended use limitation.” Applicants again note that this analysis is improper. As set forth in the “Response” submitted on October 16, 2008, and reiterated herein, the referenced claim recitation is not an intended use limitation as indicated, and, further, functional limitations must be considered. See M.P.E.P. 2173.05(g) (“A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used.”).

In view of the foregoing, withdrawal of this rejection is respectfully requested.

III. Rejection of Claims 15, 21, and 25 Under 35 U.S.C. § 103(a)

Claims 15, 21, and 25 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Suto et al., Yanagisawa et al., and U.S. Patent No. 5,756,400 ("Ye et al."). It is respectfully submitted that the combination of Loewenstein, Yanagisawa et al., and Ye et al. does not render unpatentable these claims for at least the following reasons.

Claim 15 depends from claim 14 and therefore includes all of the features recited in claim 14. As indicated above, the combination of Suto et al. and Yanagisawa et al. does not disclose or suggest all of the features recited in claim 14. Ye et al. is not relied upon as disclosing the features of claim 14 not disclosed or suggested by the combination of Suto et al. and Yanagisawa et al. Indeed, Ye et al. does not disclose, or even suggest, the features of claim 14 not disclosed or suggested by the combination of Suto et al. and Yanagisawa et al.

As indicated above, the combination of Suto et al., Yanagisawa et al., and Ye et al. does not disclose or suggest all of the features of claim 15. As such, it is respectfully submitted that the combination of Suto et al., Yanagisawa et al. and Ye et al. does not render unpatentable claim 15.

Claims 21 and 25 depends from claim 20 and therefore includes all of the features recited in claim 20. As indicated above, the combination of Suto et al. and Yanagisawa et al. does not disclose or suggest all of the features recited in claim 20. Ye et al. is not relied upon as disclosing the features of claim 20 not disclosed or suggested by the combination of Suto et al. and Yanagisawa et al. Indeed, Ye et al. does not disclose, or even suggest, the features of claim 20 not disclosed or suggested by the combination of Suto et al. and Yanagisawa et al.

As indicated above, the combination of Suto et al., Yanagisawa et al., and Ye et al. does not disclose or suggest all of the features of claims 21 and 25. As such, it is respectfully submitted that the combination of Suto et al., Yanagisawa et al. and Ye et al. does not render unpatentable claims 20 and 21.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

IV. Rejection of Claims 23 and 26 Under 35 U.S.C. § 103(a)

Claims 23 and 26 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Suto et al., Yanagisawa et al., and U.S. Patent No. 6,136,214 ("Mori et al."). It is respectfully submitted that the combination of Suto

et al., Yanagisawa et al, and Mori et al. does not render unpatentable these claims for at least the following reasons.

Claims 23 and 26 depend from claim 20 and therefore include all of the features recited in claim 20. As more fully set forth above, the combination of Suto et al. and Yanagisawa et al. does not disclose, or even suggest, all of the features recited in claim 20. Mori et al. is not relied upon for disclosing or suggesting the features of claim 20 not disclosed or suggested by the combination of Suto et al. and Yanagisawa et al. Indeed, Mori et al. does not disclose, or even suggest, the features of claim 20 not disclosed or suggested by the combination of Suto et al. and Yanagisawa et al.

In view of the foregoing, it is respectfully submitted that the combination of Suto et al., Yanagisawa et al., and Mori et al. does not render unpatentable claims 23 and 26. Accordingly, withdrawal of the present rejection is respectfully requested.

V. Rejection of Claim 24 Under 35 U.S.C. § 103(a)

Claim 24 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Suto et al., Yanagisawa et al., and U.S. Patent No. 6,953,557 (“Ikeda et al.”). It is respectfully submitted that the combination of Suto et al., Yanagisawa et al., and Ikeda et al. does not render unpatentable claim 24 for at least the following reasons.

Claim 24 depends from claim 20 and therefore includes all of the features recited in claim 20. As more fully set forth above, the combination of Suto et al. and Yanagisawa et al. does not disclose, or even suggest, all of the features recited in claim 20. Ikeda et al. is not relied upon for disclosing or suggesting the features of claim 20 not disclosed or suggested by the combination of Suto et al. and Yanagisawa et al. Indeed, Ikeda et al. does not disclose, or even suggest, the features of claim 20 not disclosed or suggested by the combination of Suto et al. and Yanagisawa et al.

In view of the foregoing, it is respectfully submitted that the combination of Suto et al., Yanagisawa et al., and Ikeda et al. does not render unpatentable claim 24. Accordingly, withdrawal of the present rejection is respectfully requested.

VI. New Claims 27 and 28

New claims 27 and 28 have been added. It is respectfully submitted that new claims 27 and 28 add no new matter and are fully supported by the present application, including the Specification.

Since claim 27 includes features analogous to those of claim 20 and since claim 28 depends from claim 27, it is respectfully submitted that claims 27 and 28 are patentable over the references relied upon for at least the same reasons set forth above in support of the patentability of claim 20.

VII. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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